ROAD & TRAIL CROSSING TRAFFIC STANDARDS

SEMINOLE COUNTY, FLORIDA

JANUARY 1998
REVISED
OCTOBER 2003

I. INTRODUCTION

This document contains the traffic design standards and treatment methodology for the intersections of roadways and Trails in Seminole County. These standards set forth the safety and traffic operations requirements for various types of crossings Countywide. The primary purpose of these standards is to create a uniform set of guidelines and provide for crossings as development occurs.

II. MINIMUM DESIGN STANDARDS

A. Signing & Pavement Markings Design and Material

The following guidelines are established and applicable for the design of the Trail:

1. All signing and pavement markings shall conform to the **Manual on Uniform Traffic Control Devices,** the FDOT **Roadway and Traffic Design Standards,** and as modified for use in Seminole County.

2. All pavement markings will be **thermoplastic** on the roadway approaching the Trail crossings. The pavement markings on the Trail surface shall be **paint** and shall be reduced proportionally in size to reduce probability for sliding.

3. Standard traffic control signs on the Trail shall be **18 inches**. Informational signs shall include minimum **Type C. 3 inch** lettering, in standard color specifications. Sign posts on the Trail shall be **4"x 4"** posts of County approved material and color. For sign structure and design, please see Trail Signing Specifications.

4. Sign assembly locations shown in the plans may require field adjustments to avoid utilities, driveways, lighting, etc.

5. The sign material shall be reflective **"Engineering Grade"** yellow on the roadways and reflective **"Engineering Grade"** on the Trail.

6. Sign details shall be in accordance with the **Manual on Standard Highway Signs** published by the U.S. Department of Transportation, Federal Highway Administration, 1979; the **Manual on Uniform Traffic Control Devices,** and as modified for use in Seminole County.

B. Sign/Markings Placement

1. All conflicting signs and pavement markings shall be removed or eradicated.

2. Sign located along the Trail shall be a minimum of 5 feet high, measured from the bottom of sign panel to the elevation of the Trail surface.

C. Sight Distance Requirements

All appropriate design measures shall be taken to ensure the corner sight triangle is clear of all obstructions (signs, trees, fencing, railing, landscaping, etc.). The sight distance measurements shall be in accordance with the AASHTO requirements for the approach speed of the transportation facility. Vertical and horizontal sight distance for the Trail alignment shall be designed to ensure safe stopping distance to bicyclists and in-line skaters.

D. Clear Zone Requirements

The clear zone standards for the roadway facility shall be in accordance with the FDOT Design Standards. The clear zone standards for the Trail shall be a **minimum of 4 feet** from the edge of the travel-way for

fixed objects (signs, posts, benches, etc.). For any trail located within lands owned by FDEP Office of Greenways and Trails (OGT) right-of-way, the clear zone width shall be a minimum of 5 feet.

III. CROSSING TREATMENT

The Trail corridor will intersect many roadway facilities with varying typical sections, volumes, and speeds. This section is intended to establish minimum design and crossing treatments based upon the type and function of the roadway. Typically, there are 3 types of crossings:

- Mid-block at-grade crossing
- Intersection at-grade crossing
- Grade separated crossing

In general, on any collector or arterial roadway, mid-block at-grade crossings within 600' of an intersection should be avoided when practical. Under these circumstances, the crossing should be moved to the nearest intersection. Table 1 is a summary of mid-block crossing characteristics and recommended treatment.

Table 1. Mid-Block Crossing Treatment

Typical	**Function**	**Traffic Conditions**	**Type**	**Minimum Recommended Treatment**
2 Lane	Driveways to commercial facilities, residential roads. Collector and Arterial	• Sight distance not restricted • Actual speeds less than 45mph • ADT less than 6,000	Type I	• At-grade crossing with Trail signing/marking. No other advance warning.
2 Lane	Residential. Collector and Arterial	• Sight distance restricted • Actual speeds over 45 mph • ADT over 6,000	Type II	• At-grade crossing with typical Trail signing/marking. • Advance flashers on W11 A-1
4 Lane	Collector and Arterial	• ADT less than 7,500 • Actual speeds less than 45 mph	Type III	• Crossing with nearest signalized intersection is desirable. • At-grade crossing with advance overhead flashers. • Regulatory speed reduction if speeds over 45 mph • Other advance features and safety devices as determined by Traffic Engineer.
4 or 6 Lane	Collector and Arterial	• ADT over 7,500	Type IV	• Grade separation or crossing with nearest signalized intersection is desirable. • Consider mid-block signalization if 1320' or more from an existing signal. • Other advance features and safety devices as determined by Traffic Engineer.

IV. TYPICAL CROSSING DESIGN

Typical treatment and design features for at-grade Road/Trail intersections are illustrated in Case 1. Typical Mid-block Crossing. It is understood that other features as noted in Table 1 are to be considered and incorporated beyond the typical crossing as necessary and as determined by Traffic Engineer. Other Safety features may be required by Traffic Engineer to include but not limited to the following:

- Additional traffic control devices
- Rumble strips
- Loop sensors for activation of warning devices
- Raised crossings
- Signalization

All conditions that do not conform to the normal application of these guidelines will be evaluated by the Traffic Engineer for determination of design parameters.

Case 2 is applicable to Trail crossing at existing unsignalized intersections. Typical Trail crossing Signing and marking is illustrated by the Case 2 drawing. Crossings at signalized intersections shall include, but not be limited to the following components:

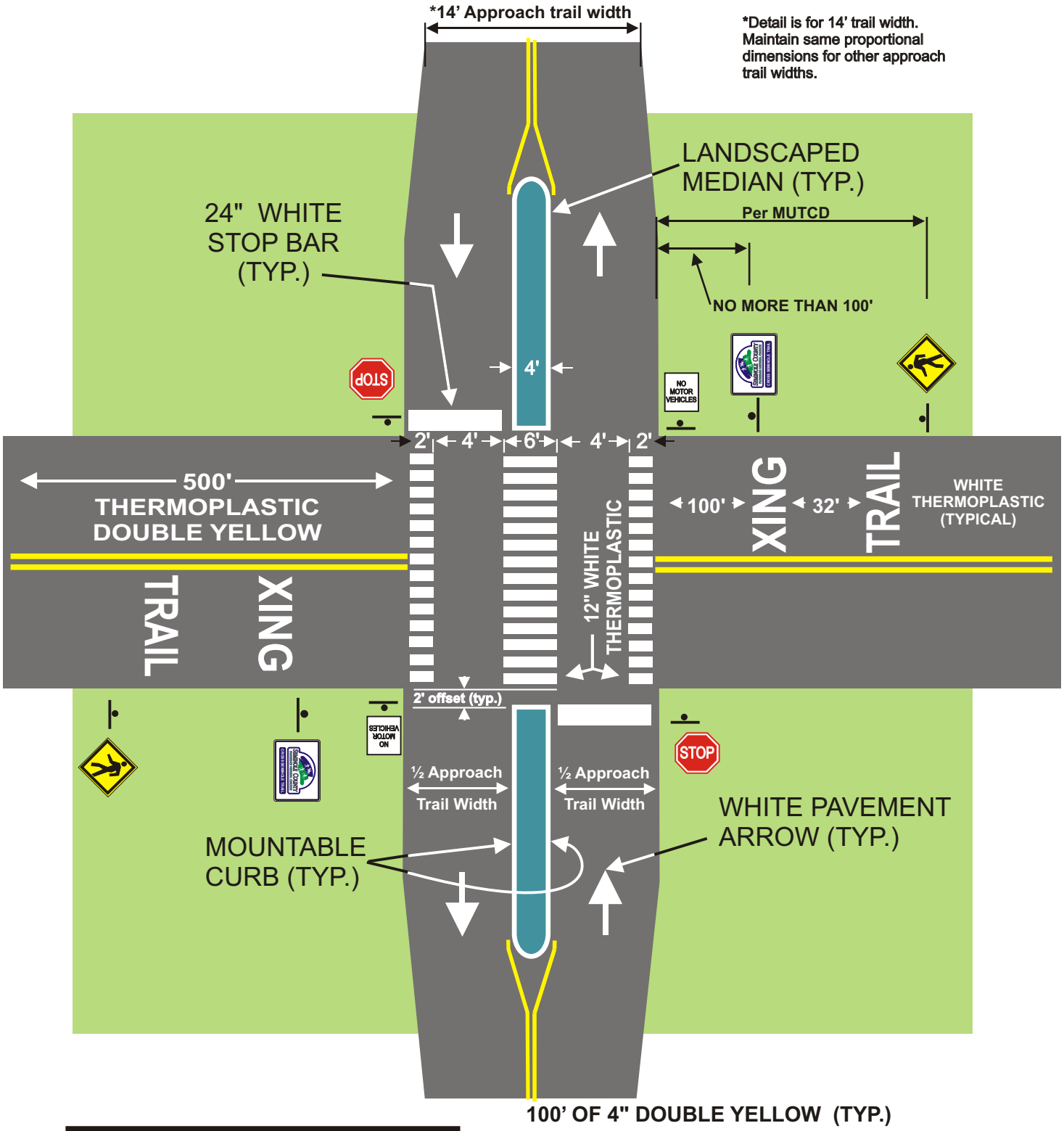
- Pedestrian features (international symbol) are required.
- Audible pedestrian features if required by Traffic Engineer
- Exclusive pedestrian phasing if required by Traffic Engineer
- Modification of existing phasing or overhead display if required by Traffic Engineer
- Fiber optic multi-message (NO RIGHT TURN/YEILD TO PED IN CROSSWALK) Signs in conflicting turn lanes if required by Traffic Engineer.
- Additional traffic control signs, markings, and signal displays if required by Traffic Engineer

Grade-separated crossings must be designed to accommodate all users and must adhere to all applicable Federal, State, and County Standards.

V. MAINTENANCE REQUIREMENTS

Traffic Engineer shall review and evaluate the conditions at all crossings on an annual basis and make necessary modifications or repairs as needed. The review and evaluation shall be limited to traffic control features on the roadway system and traffic control signs/markings (STOP sign, STOP AHEAD sign, LANE LINES, ARROWS, AND SYMBOLS) on the Trail at the crossing. It must be noted that under emergency repair conditions, Seminole County Traffic Engineering shall replace damaged Trail signs on standard u-channel only. It shall be the appropriate maintenance agency to install or repair damaged posts and/or frames.

CASE I
TYPICAL TRAIL / INTERSECTION CROSSING TREATMENT

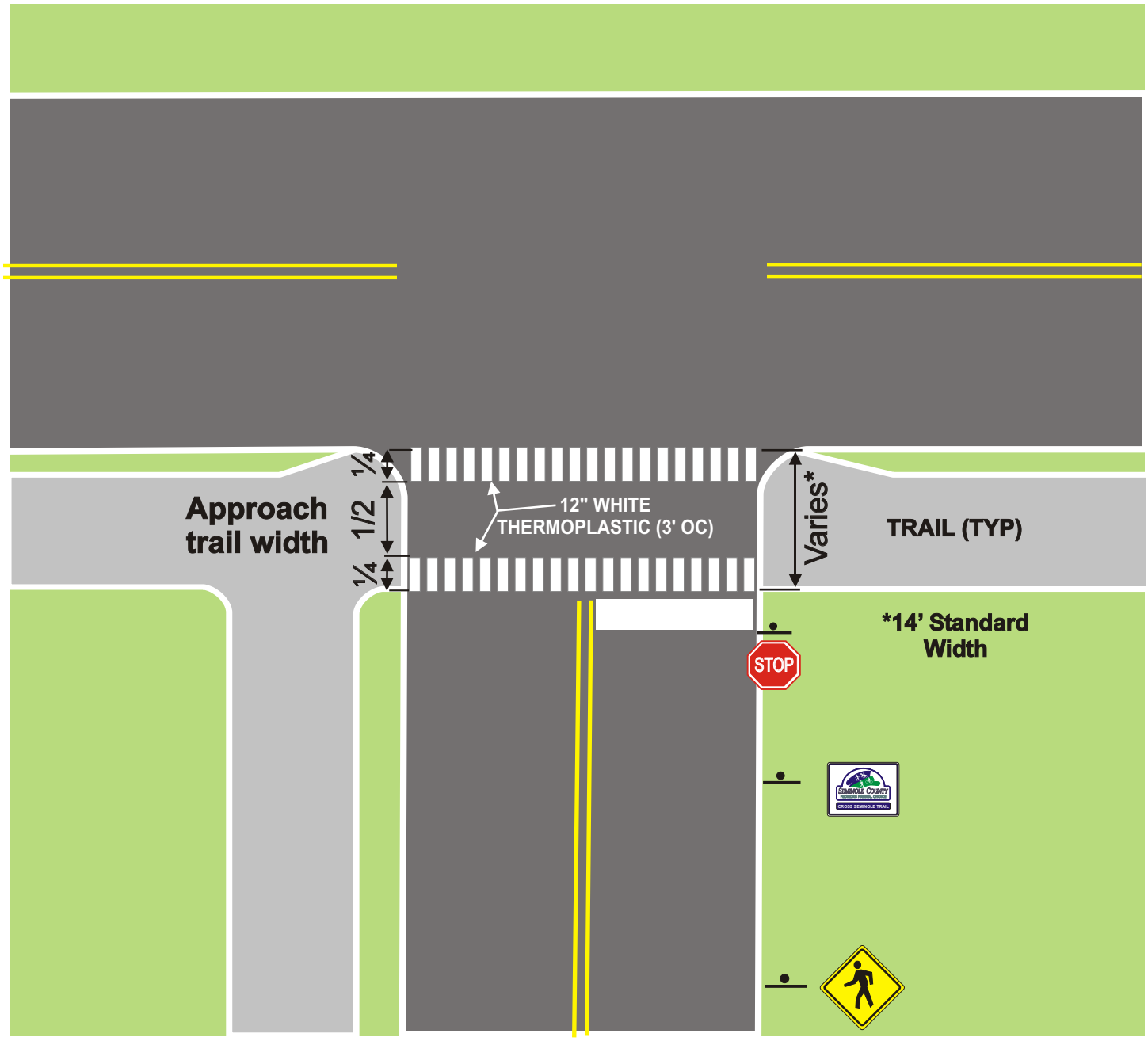


SEMINOLE COUNTY
TRAFFIC ENGINEERING
DRAWN BY:TGH
FILE NAME: Case 1

SEMINOLE COUNTY
FLORIDA'S NATURAL CHOICE
TRAFFIC ENGINEERING

FOR SIGN DETAILS USE THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION,1988.

CASE II TRAIL CROSSING AT UN-SIGNALIZED INTERSECTION



SEMINOLE COUNTY
TRAFFIC ENGINEERING
DRAWN BY: TGH
FILE NAME: Case 2.CDR

SEMINOLE COUNTY
FLORIDA'S NATURAL CHOICE
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TYPICAL TRAIL SIGN/LOGO

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